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| 10/567,909 | 10/06/2006 | Gregor Herth | 283277US0PCT | 7327 |
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| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | |
| EXAMINER | | | | |
| KAHN, RACHEL | | | | |
| ART UNIT | | PAPER NUMBER | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/567,909

Applicant(s)

HERTH ET AL.

Examiner

RACHEL KAHN

Art Unit

4131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-850)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 9/21/07, 1/25/07, 2/10/06

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-8 and 18-20 in the reply filed on 12/24/08 is acknowledged. The traversal is on the ground(s) that no adequate reason or examples were provided to support patentable distinctiveness between the identified groups. This is not found persuasive because the single general inventive concept is the powdery, water soluble, cationic polymer composition disclosed in independent claim 1. This polymer composition is not novel, as all of the limitations of claim 1 are disclosed by example 1 in Chen et al (WO 02/083073) and in Chen et al (US 2002/0188040).

Applicants also traverse on the grounds that a burden does not exist in searching the claims of all the three groups. There is a burden in searching all three groups by virtue of the fact that they are drawn to different inventions. Furthermore, US national stage applications are subject to unity of invention practice in accordance with 37 CFR 1.475, which does not include a statement regarding the burden of searching.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The use of the trademark Versenex 80 has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

Claims 3 objected to because of the following informalities: Claim 3 is missing the number of the claim to which it depends. For the purposes of examination, the examiner assumes claim 3 is dependent upon claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8 and 18-20 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al (US 2002/0188040).

Chen discloses intercalated polymer complexes comprising water soluble monomers polymerized in water in the presence of a second host polymer [0020]. Chen teaches an anticipatory example (Table 1, page 8), in which cationic monomers of diallyldimethylammonium chloride (DADMAC) are radically polymerized (in water) in the presence of a cationic host polymer, polyquaternium-7 (which is a copolymer of acrylamide and DADMAC). The poly-DADMAC formed from the DADMAC monomers is analogous to the "first cationic polymer" of instant claim 1, while the polyquaternium-7 is analogous to the "second cationic polymer." The first and second cationic polymers in Chen's Table 1 have corresponding structural units, as they both contain DADMAC structural units.

Regarding the limitation of "powdery," Chen teaches that the complexes may be in dry form [0074]. Chen also teaches that the disclosed interjacent polymer complexes provide an improvement over physical mixtures of polymers disclosed in the prior art, which have problems with clumping of dry powder [0017].

Regarding the limitation that the first and second polymers differ in molecular weight, Chen teaches that the two polymers may be made by different methods, resulting in different molecular weight distributions [0063].

Instant claim 1 recites that the polymerization may occur according to the process of "adiabatic gel polymerization." Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a

different process. See MPEP 2113. Furthermore, while Chen does not explicitly teach by example the method of adiabatic gel polymerization recited in instant claim 1, Chen teaches that an adiabatic process can be used to prepare the polymers when a wide molecular weight distribution is desired [0063].

Regarding the ratio of the second (host) polymer to the first polymer, in Example 1 Chen teaches 2.7% second polymer (polyquat-7) and 39.7% first polymer (poly-DADMAC) [0081]. These values would be the equivalent of a ratio of about 1:15, as calculated by the examiner.

Regarding claim 4, Chen cites cationized monomers of both esters (METAC) and amides (MAPTAC and MAPTAH) of methacrylic acid [0040 and 0052].

Regarding instant claim 5, Chen cites a number of suitable water soluble monomers which can be used in preparation of the interjacent complex, and notes that one or more may be used [0040].

Regarding claim 8, Chen cites that a preferred class of polymers useful as the second (host) polymer are polyquaterniums, including the homopolymer of DADMAC (polyquaternium-6) [0043]. Polyquaternium-6 comprises 100 wt % cationic DADMAC monomers.

Regarding claims 2 and 3, Chen recites that in some cases, the molecular weight of the host polymer and intercalated polymer will both be up to 10,000,000, fulfilling the recitation of instant claim 2, and that in other cases, the molecular weight of both polymers will be not more than 500,000, fulfilling the recitation of instant claim 3 [0042].

Regarding claims 6 and 18-20, Chen fails to explicitly recite that the first cationic polymer has a lower charge density than the second (host) polymer. However, an interjacent complex comprising a) polyquaternium-6 (100% cationic monomers) as the second (host) polymer (as described in [0043]) and b) an intercalated first polymer comprising 20-50% cationic monomers (as described in [0045]) would fulfill the recitation of instant claim 6 that the first polymer has a lower cationic charge density than the second polymer.

Claim Rejections - 35 USC § 103

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US 2002/0188040).

Chen recites the use of cationic monomer in the intercalated (i.e. first) polymer in ranges of 5-90%, 10-75% and 20-50% [0045]. These ranges overlap the presently claimed range and overlapping ranges have been held to establish *prima facie* obviousness. See MPEP § 2144.05.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29

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USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 and 18-20 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 10/567664 in view of Chen et al (2002/0188040). '664 teaches all of the limitations of the pending claims in the instant application, except for the limitation that the first and second polymers comprise "corresponding structural units." '664 recites that the two cationic polymers differ in the composition of the cationic groups. Chen teaches examples wherein the first and second polymers have corresponding cationic structural units (example 1, page 8) and examples wherein the polymers differ in their cationic structural units (example 4, page 9). It would be obvious, therefore, to one of ordinary skill in the art, that the compositions in the copending applications could be made with either different or corresponding cationic units.

This is a provisional obviousness-type double patenting rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHEL KAHN whose telephone number is (571)270-7346. The examiner can normally be reached on Monday to Friday 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RACHEL KAHN/
Examiner, Art Unit 4131

/David R. Sample/
Supervisory Patent Examiner, Art Unit 4131

RK